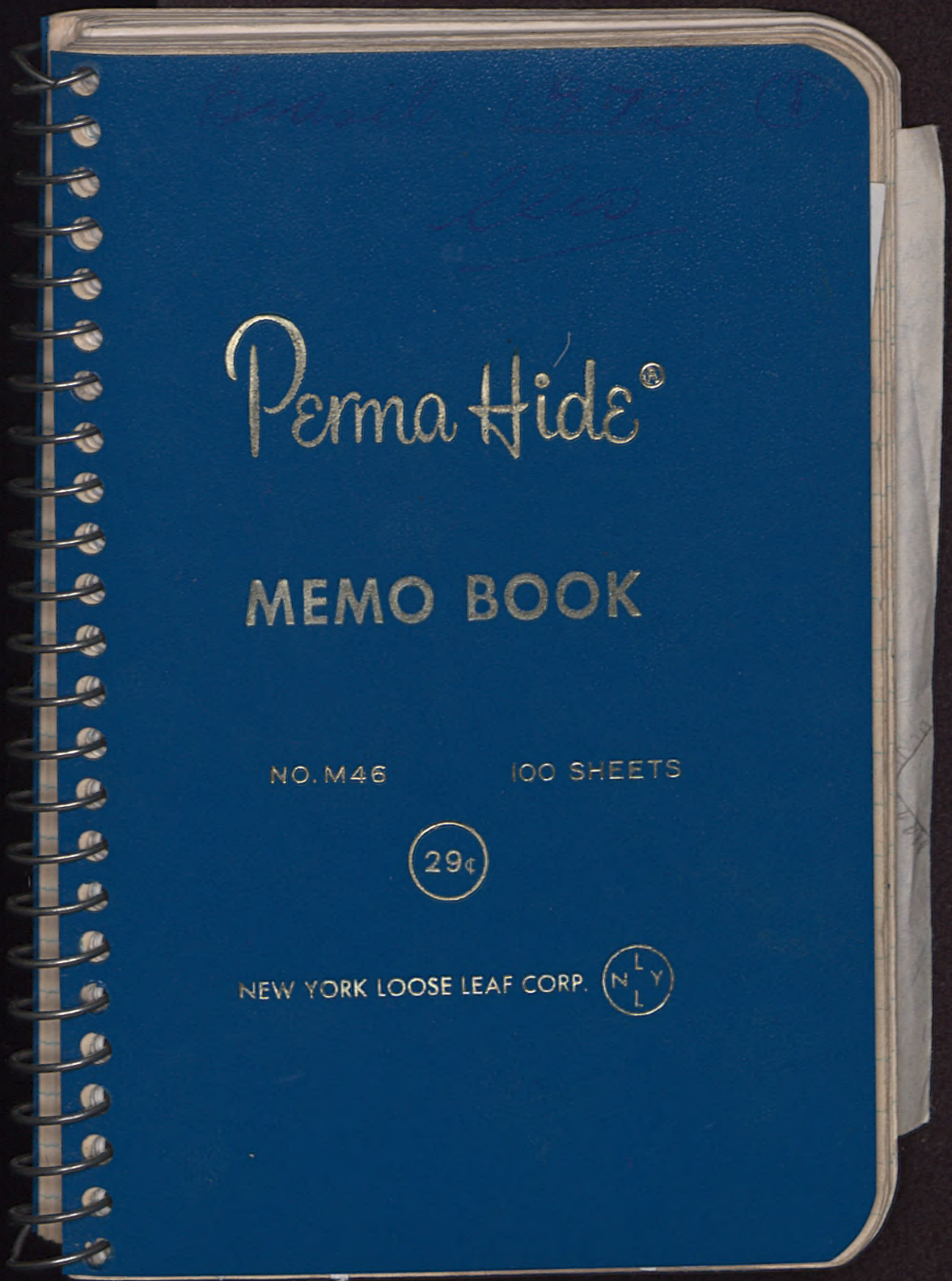
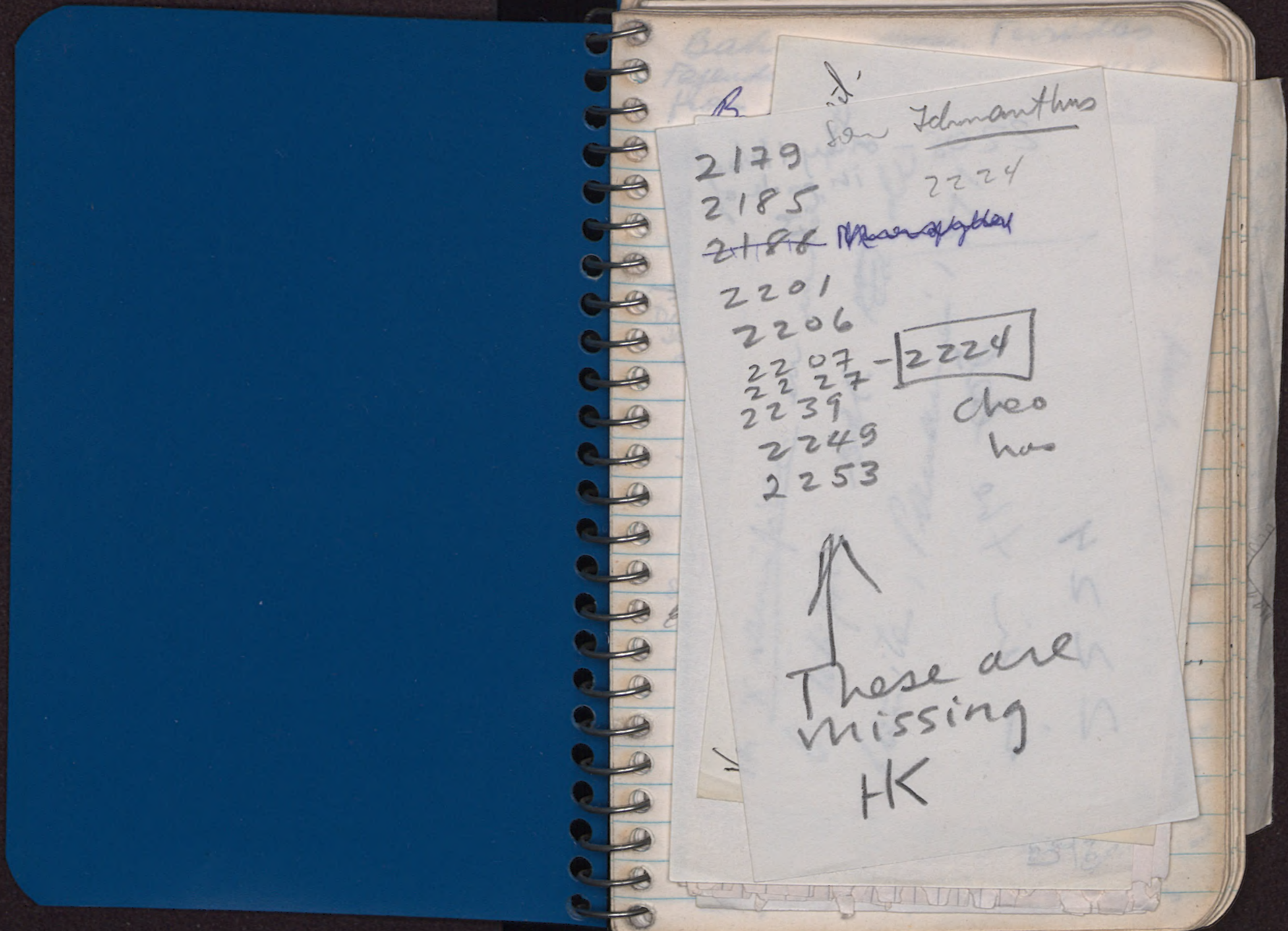

Perma Hide®
MEMO BOOK
NO. M46
100 SHEETS
29¢
NEW YORK LOOSE LEAF CORP.
NLLY

SHOUT IT
SHARE


2179
2185
2201
2206
2207
2227
2239
2249
2253
2224
These are missing
HK

2179 Son Johnanthus

2185 2224

~~2186~~ Mesenglyphal

2201

2206

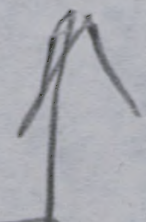
2207 - 2224

2227

2239

2249 Cheo

2253 hus



These are missing

HK

2224
is in the lab -

2208 - only Herbert
in parke of

Ver x ramificar en mis repet.
O. latifolia Cbl. Ed de
Lanita, Panamá 1971

Cryptochloa piresioides.
Panamá, Santa Rita.
R. L. Dressler 4037 - June 26, 71
(on ginglymostemon on 10
Parodadium, at last, from
a terminal node of a
blastless culm -

March 21. Ubaitaba (1)

2181 Pinnie sylvestris soil # 14 (4 vials)
2182 Pariana lanceolata (3 vials) soil 13

March 22 soil 15.
2183 - Roddia portoi 5 vials
2184 - Eremitis 4 vials soil 16
2185 - Schnantus - 1 vial -
Termômetro posto dia miércoles 21, tarde dia seguinte, 22
mínima 72°F
máxima 78°F (plant level - (dia ant: 68°F, 78
Soil temp. 78 -

March 23 Ubaitaba
Temp. (dia 22) maxim. 78°F
min. 66°F
soil temp. 77°F at 10 a.m.
Roddia portoi (Hyrsuta) 5 vials
2186 Roddia hyrsuta "
alt. S. n-m. 90°E n-m
soil sample # 17

Nota de Viagem 59-60
Município Aurelino Leal
Fazenda Santa Maria
(dueño Francisco Aragão de Lima)
12 Km SW de Ubaitaba
going to Loje do Banco -

2187
Radiolya monophyle
abundantissime
(todos colos) bl. & negro
soil sample # 18
alt. s. n. m. 100 m.
soil temp = 76° F.
FRA, 3:1, Borg. 3 vials
Fazenda Santa Luzia
proprietario Maria Rosa
Rocha
Municip - Aurelino Leal.
4 1/2 Km de Barcolentia

Olyra filiformis o capillata

Rod. Lauracan - Lauraneira

3-30 Km L de Lauracan

Plantação de cacau

Belém et Apuias 28-7-1965

1389.

Piresia leptophylla.
GEB. 2047. (18-1-68)
Sta Cruz Cabralia, Km 5 canal
de Sta Cruz Cabralia.

Pinheiro 1706 - Piresia 4-11-71
Rod. Sto Expedito - Camaçari,
Canal Da Bandeira.
Plantação de cacau e capim
Meio Gibanes.

Eremitis.
GEB. 2054 (1968)
Camaçari, Km 19 rod. Camaçari para Itaimbé

Olyra nanoisiana

S. Ley Cabralia - Reserva biológica do pau-brasil

T. Santos 1914 - 15-9-71

Rod.

Una x Olivença. Mata costeira. Montagas de piassava

Ribeiro 1552 6-8-71

Olivença, estrada ao Marcos Mata do Curucuçu, próximo ao litoral, solo arenoso

19 Aug - 1970 - T. Santos 1020.

Rollo 43
último visto
comenzó con
44

Rollo 44: Cerro Tepe - Parte
Santa Rita (Tinta, 2-3 fotos sueltas)
Rollo 45: Santa Rita: Empal-
cliguita, Empl. Dominici, Paraiso
en flor -

2188 (4)

Terminthus ♀
at 250 m.s.m. in soil FAA.

March 24, 1915

2189 V

Bamboo ♀
300 m.s.m.
rather hate 44 m.
rizome legnoso.
6 rami x anno una principal
Jema fin dalla base
soil sample 19
FAA, radici e/o rizoma
tutto, Jema + foglie, base
Photo: color x b a w

Bn - Municip. di Telese, Distr.
Pedica Quemada, Sierra
Tenerosa.

Cheh.

Merontachys -

March 25, 1872 2198

Bo. Mun. Arruque, Distr. Tedue Queimada. Fazenda Pancada Formoso. Bauto -

Alt. s. n. m.: 120 m

~~setting~~ clearing ± 4h to 12-15 m - dulcis holow, thick heath herbaceous, with black reflexed at ray non falling - rocky banks 6)± 4h mode!

soil ~~sample~~ ± 20

FAA (1 nat.) no photo, sun

---

2 rolls colors - envied. (3° in camera

6 rolls Tri-x envied (4 al 9) -

#3 revelado en Habana

2 rolls (1 y 2) en Rio con Tom -

Total envied Rio: 8 rolls -

Brasil 1972
Bahia: March 5 -
Cleo E. Calderón

Feb. 2003 (1908)
Hungarian Countess (Radki) Hoch.

ca. 14°50'20" Lat. South
39°20'15" Long. West

Bahia - Mun. Ferradas
Fazenda Aberta Grande, 14 Km
from Itabuna. (W)

Diandrolyra? Arizonica

2159

March 8, 1972
Brasil, Bahia, Mun. Itabuna
Distrito de Ferradas, Fazenda Aberta Grande
14 Km W of Itabuna
alt. s.n.m. 100 m.
- 14.15 hors, Atm. temp.:
Wet: 78°F
Dry: 83°F
Humidity 78%
soil temp. 77°F.
soil sample n°1 = taken at
0-20 cm, from 3 spots
Flotop: ± 10 from roll n° 3
and: from roll n° 4. B&W-
FAA: leave, inflorence, shoot
apex, seedlings: some leave
with the white spots (probably
a disease)
Bouquet: inflorec, & flowers

3:1 : inflores. + stays.
4 vials

Photo : color Ektac. vel + 1st taping of the

- In secondary forest with some cacao plants.
Small plants in dense clumps near trail.
(looks like a little Calanthe)
It doesn't look like an Oligoclonium because the petiole has a very dense and compact
Diplol : with glands and both sexes ; Spheres normal except in the 3 stigmas everted.
Mostly all of the infl. in separate short stout cors by a single leaf blade.
Leaves with white spot, perhaps a disease. Many seedlings near plant (destroyed within the clumps.

alt. s.n.m. max 100 m.
Diadelphus? tecte. of page 2160
at 3.50 p.m.
Wet bulb Tem : ~~82~~° F 80
Dry bulb Tem : ~~82~~ F 85
% Rel. Humidity : 82~~%~~ %
Soil Tempera. : 77° F (at 4.30 p.m.)
Soil sample n° 2 : taken from 2 places, at 0-20 cm.
Photog : roll = 4 bl x w.
with green filter, no tripode (good light).

~~Vials cuttings~~
FAA : 1 frasco soil : leaves, inflores. with attached leaves
3:1 : 1 inflores.
~~3~~ 2
Same area, but in darker place - small clumps scattered in dark places, usually around trees. Plants much larger than

the first collected but with the same type of inflorescence. Few with flowers.

2161

Diandrolyra? probably? (small clum near normal plants.)

no fixed material

~~Photo: 1063 Ektachrome all # 1~~

~~several shots, some with Diandrolyra digita~~

K 2162

Streptochaeta spicata

no fixed material

seen but not collected:
Pharus (large plants),
Rhadiolyra monophylla.

Diandrolyra sp. (chiquite)

2163

March 10, 1972
Br. Ba. (Myn. Habsuda) Ferreda
Fazenda Abete Grande, 14 Km W
of Habsuda
Not far from where we collected
Diandrolyra first time
Light: at 12.45 p.m
without filter: 15, +2 pints
red: 14 1/2
blue: (without 15) 14
green (" " 15) 14.1
yellow (without 13,2) = 13.1
light changing rapidly due to
big clouds.
Soil temperature:
Atmospheric pres.: 753
Alt. s.n.m.: 110 m.
Temperat. at 1 p.m
Wet bulb 81° F
Dry bulb 90° F
% Relat. Humidity 70%
no fixed material.

2164- Diad. [illegible]
2165 R. [illegible]

In dark places, [illegible]
exudes [illegible] repetation
Another species of Diandolya
like large one (Acc 2100)
growing nearby - Here the
[illegible] Dendrolyra
was much more abundant
than in the first place -

~~Woodsia Ref~~

2164

Dudleya spp.

~~Dudleya sp.~~

FAA: seedlings.

Rodia? polypodioides

March 13, 1972

Br. Bohic, Mun. Habana Ferrodal, Fajenda Abertagrande

B.B. collected 2165

Alt s.n.m. 80 m.

Abundant along small creek the water's edge or near ~~stream~~. In very dark, shady spot place. It grows in small clumps, fern-like, rather large plants or on the banks of the stream.

It seems that the ♂ inflorescence finish or so; many empty, old axes. Female inflorescence still blooming mostly in smaller adults with very few leaves.

Very thick and long roots

soil temp. 76-77° F.

light int: sat 3.45 pm
without : - - 12
yellow - 2°/+°
green: mk - 12
" : 2°/-°
blue: mk. - 12
" : 1°/+°
red: between 1 & 2°/

Temp. ± 83
~~4~~ 6 reds 6
FAA: 1) leaves, inflor ♀
2) ♂ synflorescence, 3) seedlings
Borg: 1 ♀ sphl
3:1: 1) ♂ sphl & 2) root tips

K, MO, NY, P, LE, B, F, G, W

Laudisia 2166

Rodriguezia monophylla

Frequent in forest, shady, humid places.

3 trials

FAA (leaves and flowers) B. a 3:1

K, MO

O. lotiplia 2167

March 14, 1972

Br. Br. Kuhlmann & Theins, Litoral Castelo Novo, Fazenda Santa Rita, Km 4 Portos Castelnovo - Theins.

"Mata". Open forest in slopes, rather dry soil. Large plants 4 to 5 m tall, no branching, large leaves, pseudobulbs of 2 to 3 nodes

no photo

FAA, B. 3:1 3 trials

3 vials -

2168

Stairia platyloba?

In open places, along trail. Plant up to 1.50 m or more.

FAA, Borg. 3:1 no plot

2169

Johnanthes Encephalartis (Schrad. ex Schultes) A.G. Hitch.

Along trail in open places scarce in portions from most of the route. Plants growing under other vegetation

no fixed material or photo

Plantlets fixed 2/6 - roots not yet -

March 5, 1972 K 2170

Brasil, Bahia, Mun. Ilheus. 6 Km SOOR Maruçuca → Ilheus.

Phanus sp. (grande)

~~fixed in FAA after expansion~~

In secondary forest and tall edges around cocoa plantation. ~~Difficult~~ Frequent in open, shady places.

FAA: ① leaves, disposable apical 1 base of scales.

Borg: bracts of inflorescence -

seeds -

no photog.

Soil sample: n° 6

2171 Plants Mexico

2172 O. fruiporia ? flaccida ?
2173 Phyllotopsis nidulans

— main axis with "end bluish" —

K, MO, NY, P, LE, B 2171

March 15, 1972

Plants of (Mexico)

Br, Ba, Municipio de Ilhéus, 6 Kms South of Uruçuca. In secondary forest with cocoa plantation - growing in open place, shady, large group of plants, forming a clump of about 3.5 cm long x 2-3 cm wide. Plants growing vigorously, in all stages of flowering seedling and small plants and small clumps.

Many plants with main axis of inflorescence ending in a "terminal spikelet; some very large and well developed.

A pair with more than one spikelet or pair of spkl developed, 2-3 or more pairs like the rest of the panicle. All of them or 10, fixed in FAA in a separate vial, cut below point of emerging of uppermost panicle branch. The main axis becomes thiner after the last panicle but like in the normal case of the leaves but ends with the production of a spikelet or pair?
Many seedlings near adult plants.

Photo: in color of the group and some plants.
Black & white: the whole group, individual, close ups of inflorescence and main axis termination with spkl.
FAA: 3 vials; 50 cc: 1) leaves, roots, spkl in 1st stage, shoot apex; 2) termination of main axis with spkl; 3) seedling
Borg: spkl in 1st stage, 3:1 young spkl
Seeds: Abundant
Soil: sample # 5
Temp: ± 10 2pm: 77°
Soil Temp: 76,5° F.

5 vials.

Soil Sample # 7
3 trials Alnimia

2172
Ba, Lagôa Encantada
at ± 1 Km from the
lake and 25 Km from
Uruguaca - Municip. Ilhéus.

Olyra glaberrima ♀ H'
H, MO, NY, P, LE, B, F, G, W, ISC, WIS
In primary forest,
growing in open, shady
places. Frequent.
Beautiful, delicate plants
with rather weak culms.
Inflorescence several para-
clades - each paraclade
ending in a large white
♀ spikl, several small ♂
spikls below.

2173

Oligoneuron sp. (Solidago)
depressed.

Large Bees clump along trail.
No flowers but instead the inflorescence is depressed, many branches ending in small repetative buds.

photographs:

soil sample 9

March 16 2174

Eremitis scandalaria (Cruz

Municipio Itacaré, ~~Bahia~~ Rio de Fazenda da Alma - 19 Km SE of Ubaitaba

- Soil Temp.: 75°F
Temp: 2-4 p.m. 72° F.
Altitude s.m.m. 100/10 m.
Plot: bl. a w. a color a bow flock
EAA: 1 (sec) bfo. inf. apicals, tallo, inflorescences.
back: flows apicals
5:1 inf. apicals
Soil sample: # 9
(3 vials)

~~2175 Bom to grade - Soil 8.~~
~~2176 Rabbit fly~~

Bda
In shady place, very humid, near stream, in small clumps associated with Rabbia polygonata.
Plant of ± 40 cm -
Leaves dark green and ash white below. ~~Heavy~~ Almost all plants blooming from the main culm (apical) No basal inf. found.
Very long (upto 50-60 cm) subterranean stems, thin, white with short sheaths and sometime reddish purple color (wine).
Main culm of the plant purple wine in basal part (± 1/2 the culm).
Stamens (box of inf.) opp

8 vials ← 2 FAA
1 seedling
3 3:1
2 Borg

2175

Encrite ~~sp.~~ sp. (prairie)
Growing in very humid place, near or at edge of stream, shade and cool place. Very vigorous plant up to 2 cm, between rocks, and under ~~bigger plants~~ blooming well from both apical buds and at the base. The basal internode with ~~stem~~ short stem (not as long like the other Encrite). Most of them were ~~dead~~ or almost by fallen leaves. The well developed ones emerging from the leaf axes. Plant with light green leaves basal infl. thick, large and green.

Bd, Municipio de Ituzaingó, Distrito Ayuí Tuna, Fazenda Las Arboledas. 19 Km S of Alvarito
Alt S.n.m.: 100-110 m
Photo: 6 x with, colls 2 nos
Soil sample # 8
FAA: 3 vial: one with apical infl + leaves, 2) basal infl., 3) seedling
Borg: 2 vial apical + basal infl.
3:1 3 vial. (1) apical + basal infl. (2)

Seedling: collected in FAA. Found only large plant with "huge" seed, some smalls, seedlings with small, normal size fruit.
— long style with 2 short stipules, papillose.
More than 1 infl (apical) 2-3 seen in some plants

emerging from the apex and 1, or 2 more below. Besides, each one with two partial inflorescences. At maturity upper part of inflorescence (with ♀) falling.

No extremely large ones seen on the plant to explain the large size, like in cherry, of the seedling. Those one collected around large clump germinated. Plant extremely sensitive to direct light. We chopped the small tree to photograph and about ½ a minut the whole plant, the leaves "se marchitan" rolling and looking dead.

~~Adiantum~~ polypodioides 3 vials.
Stephens
March 17, 1972 2176
Ba, Mun. Itacare, Distr. Aguas Frias, Fazenda A. Alencar, 1.9 Km SouthE of Ubaitaba
- Alt: 100 m., on g'ntrunk
Photo: color & bl. & white
FRA: (1) hoja, inf., raiz
Dreg (1) inf. ♀
3:1 : inf. ♂
Soil sample: #10
Very abundant along edge of river stream, in very humid and dark places between rocks.
Form: small clumps like ferns.
In some place associated with Blechnicaulis and not (this) blooming very well.
Most abundant ♀ apkd of ♀ inf. blooming first.

Piresia macrophylla

March 18, 1972

2177

Bo, Municip. Itacaré, 7 Km SW of Itacaré city.

Piresia ~~sympodica~~ ? Olyreae

Fr 1° forest, dark, rather dry, and with a dominant bamboo.

Ground cover by too dense layer of ~~dead~~ old bamboo leaves. Not many small herbaceous plant growing.

Collected ~~5~~ herbarium.

~~FAA~~ fixed material, and photograph or soil -

1 vial

descriptive site data - short time working - pressed & dried next day

March (18)-19, 1972

~~Ba~~ 2178

Be, Mun. Itacaré, 12 Km SW of Itacaré, Mouth of Itacaré, Rio Jeribucassú

Piresia sp. (~~Festuca~~ ?)
rhipidophylla

Light at 12 noon
without filter 13
green f. = 12-°
yellow = 13-°
blue = 12-½
red = 12
(Sky cloudy but not very dark)

Alt s. n. m. 0

Temp., at plant level:
min. = 72° F.
max = 78° F.

Soil temp = 78 (at noon)
Soil sample = # 11 red clay.

4 vials -

FAA: 2 vols, one with leaf, root, sphl, some in flore. 2) long basal flowering shoot and some large typical inflorescence.

Dry: ♀ sphl. and some whole inflor.

3:1: 6 whole inflorescences

Photo: 6 × W. end of one roll and about 15 of 2nd roll, some in this roll with flash.

color: 2nd roll some in die (?) but I think estragole dry (?): some of same roll but cover setting of 7 n° lens.

No time for seeding -

Growing in banks along river, between rocks, in very humid and shade places. Very abundant,

03JD 2178

forming in small clumps, in some place, almost dominant vegetation. Associated with ferns, many forms under the protection of larger ferns. Almost all plants with flowers or fruits?

Most of them in the apical aggregations and basal rosettes as well. Basal rosettes are seen in separate plants with very reduced leaves and emerging ascending "these are not undergrowth plants" - lower partially by fallen leaves.

Study similar seen with the two or more partial inflorescences

Partial inflorescence seems to be the same type in both apical and basal rosettes. Each of typical with one very small 3 sepals. These one deciduous very rapidly - hard to find.

Plants variable in size and position of the leaves in the leaf complement. Many leaves in each leaf complex sometimes overlapping each other basis the apex.

Plant ± 20 - 30 cm many small others seem by there were very plant beautiful plant of light bright green color sepal

f + B - red, dark wine color -

This creek is in the area of the bamboo forest - No Olyras near in that forest (several kms and f actly only a few Olyra latifolia of poor shape - and Bre Rams isolated !

March 18, 1972 2179
Lehmanthus depauperatus Mg
Be, Mun. Itacaré - 5 Km SW of Itacaré -

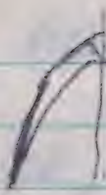
In a clear spot along trail of bamboo forest only few plant seen - No fixed material, no photo -

---

March 19, 1972 2180
~~Olyra latifolia~~ Mnesithea ~~Bambos~~ Bambos
Be, Mun. Itacaré, 10 Kms SW of Itacaré, in dense forest
Climbing bamboo, very abundant all on the forest for about 10 Kms or more ~~of~~.

blades culms (up to 10-15 cm high. ~~from~~ roots on trees or other plants, in some places forming dense mats of blades and culms. Culms of about 1-1.5 cm in diameter - solid but with some holes in a circle near the epidermis .

Sterile culms sheath persistent and very thick and hard at the base; very difficult to remove - blades of these leaves deciduous, falling very early even in young nearer culms. Blade narrow acute and bent downward



several bundles from a node but one seem to be dominant, larger and very thick - Rhizome not removed.

F.A.A: leaves, culms, nodes with buds, some culms sheath young with blade, short after of leaf complement, nodes with small young buds

Photo: b & w, one in 1st roll, rest in 2nd roll - color: one of algae on roll #2 (extra photo?)

Soil sample # 12

Soil Temp.: 78°

A. Atm. Temp.: (lower level at 3.45 p.m. 74° F. (But outside very hot) cloudy

Alt. s. n. m. = 100 m.

March 21, 1972

2181

Ba, Municipio Aurelino Leal, Fazenda Santa Maria, Rodovia Ubaitaba - Itajú do Banco, 12 Km SW of Ubaitaba.

Piresia ~~sympodica~~? (Kuntze) Scribneri

Temperat. (48 hours).

High - 78°F | 78°F

Low - 72°F | 68° at plant level

Soil temp. 78°F.

Light: not meas.

Alt. s. n. m. - 90-100 m.

Photo: b x w. dark color.

FAA: 2 vials: 1) leaves, infl. not.
2) Superficies of basal shoot.

Borg: 1 ♀ infl.

3:1: whole partial infls.

(total: 4 vials).

Soil sample : #14

Soil sandy, rather loose and cool, by a thick cover of organic material, dark color.

Plant common in secondary part of cocoa plantation. Old plantation, ± 60 years old with rather tall cocoa plant. Native tree very big. Open forest, in a smooth slope with rocks.

Growing very well in scattered clumps under trees, or rocks, some also in clean place, Associated with Rabdia ~~SL7~~ Portoi & Paviana lanceolata.

All plant blooming, and many with apical inflorescence, leaves dark green, heath looking inflated and with loose pubescence. Growing in the shady places, not in opening or near road. Mostly in the lower part of the slope

Leaf-complement with petiole 2-4 leaves.

March 21, 1972

2182

Bo. Nuevo Amanecer Real, Hacienda Santa Maria, Rodeo Uberlata - Lago to Banco, 12 Km S.W. of Uberlata.

Pariana lanceolata

Alt. s.n.m. - 90-100 m.

temp.

high - 78-78° F (2 days)

low - 72-68° F

Soil temp: 78°

Soil sample # 13

Fixed material: 3 vials FAA - leaves, inflores. Berg. infl.

3:1 infl.

Photo: some in color, b & w; most with tripod (8-15).

Not very abundant, growing in some spots of the area usually near rocks. Associated with Rivina and Rodbia plants. Beautiful, elegant plant with very long oval petal spurs around the Inflor. Thin, all terminal to the culms, no one plant seen with basal infl. Plant about 40 cm

March 22, 1972 2183

Brasil, Bahia, Municipio de Aurelino Leal, Rodovia Ubaitaba - Lage do Banco, 12 Km S.W. of Ubaitaba, Fazenda Santa Maria.
Raddia (filme)
(The owner of this fazenda is Mr Francisco Dragão de Lima).

Alt: 90-100 m
Temperature (Atm.) (24 hours read)
high: 78°F/78° (at plant level)
low: 72°F/66°
Soil temp. 78°F / 77°F (next day)
light: not measured.
Soil sample: # 15
Fixed material: 5 vials.

FAA: 3 vials: a) leaves, ♀ flowers
b) synflorescences (♂ × ♀)
c) seedlings
Borquet: ♀ sphl. + flowers
3:1: ♂ flowers.

Photo: bl × w = roll # , vial
of plants for the whole association
close up of ♂ × ♀ synflorescences
In some plots associated with
Rodriguya manglyla.
Lotes: roll?

Secondary forest, old
cacao plantation. Open
type of forest with very
big native trees and
cacao plants planted in
between (but not many).
Cacao plant very robust,
they are trees. This is an
old cacao plantation,
probably more than 60
years old.
The flora: forest in a
slop with a very smoth
inclination. With big
rocks. Shady and very
humid place. Very rainy
and also very near the
"rio das Contas", I think
this place is in the valley
of the Rio das Contas.
Soil rather loose, sandy
with a thick layer of
organic material.

Plant very abundant,
in some place forming
continuous carpet.
The Rotent plants grow in
large clumps, rather

stiff arms. Plants dry pubescent.
Many female spikelets inflorescences from 1/2 the plant and down. Basal partial inflorescences from each node.
In many places growing together with Panicum laxiflorum lanceolatum, Rodisiya monophylla Many seedlings around parents clumps (Many fixed in FAR)

March 22, 1972 2184

Eremite monothalamic

Brasil, Bahia, Municipio de Aurelino Leal, Rodovia Ubaitaba - Ilheus to Banco, 12 Km SW of Ubaitaba, Fazenda Santa Maria

alt: 90-100 m. s.m.

Temperature (Atmosph.) 2-3 days record

high	78° F	78° F
low	68° F	72° F

Soil temp: 78°

soil sample: # 16

light: not measured

Fixed material: 4 vials

FAA: a) ~~nothing~~ ±)

b) lens, ~~&~~ explosives

Bonquet: subterranean infloresc.
5:1 : infl.

Photo: GL x W - adult
plant with long subterranean shoot that put up but not ~~out~~ mixed bbs. Adult: the stone, plant with subterranean inflore. and also bud (0.3-1cm)

This locality is for the stone locality where I collected it 4 years ago for the first time.
Plant ~~up~~ not very tall, ± up to 50-60 cm tall in dark & humid places of the slop. Inflorescents from the base of the plant the apex of the culm and at the end of the white subterranean shoot. This infl. are like a cherry, and grow bent towards the above ground! These shoot are long (one measured one 1.20 cm) and run parallel to the ground some notes deep, ± 10 cm all of them with inflores. at the end (hard to dig up without breaking)
Many seedlings found from both, normal and cleistogamous seeds. Seedlings of ~~the~~ cleistog. ~~have~~ have less leaves than the ones from normal seeds.

March 22, 1972 2185

Br. Bd. Mun. de Aeolians
Leal, Fazenda Santa Maria
Rd. Abaitaba - Lago to
Banco, 12 Km SW of
Abaitaba

Tabernaemontana sananho
(Schrad. ex Schultes) A. S. Hitch.
Frequent in the bosque
with Rodrick of
and the other Olyeas
of the area.

FAA. Liquid
no leaf sample, no photo

K, MO

March 23, 1972 2186

B. Br. Municipio de Aurelino Leal, Rodovia Ilhéus-Itajé to Banco: Fazenda Santa Maria, 12 Km S of Ilhéus-Itabuna

~~Paspalum~~ ~~notatum~~ micrantha

alt. 90 m. s.m.
soil sample # 17
soil temp 77°F (at 10 cm)
Temp (atm.) x 3 days.

high:	78°	78°	78°
low:	72°	68°	66°

Photos: b x w only - roll #
Fixed materials
3:1:
FAA
Dong -

Not very abundant on Barbacoas. Grows a little far from the road, ± in the back of this area, with some coffee plants. Grows between a lot of Rodlia & in rather open place.

K, MO, NY, P, LE, B, F, G, W, ISC

March 23, 1972

2187

~~Parathelypteris~~ monophylla

Dr 60. Mun. de Aurelino Leal: 4½ Km North of Banco Central: Fazenda Santa Lygia.
(The owner of the fazenda is Mrs Maria Rocha)

alt: 100 m s.n.m.
soil temp: # 18
soil temp: 76° F

Fixed material: 3 vols
F A A: leaves, ♀ & ♂ spkl.
Berg: ♀ spkls
3:1: ♂ spkls
Photo: b & w: roll #
color: ektachrome

Johnantheus nemorale

Br. BE. Municipio de ~~Arraiano~~ (= Illeus ?), Distrito de Pedra Amarinoda, Serra Temerosa

Forest in steep slop of hill. Shady place between rocks -

FDA: leaf (+phl?)
no bit - no photo -

all one in the food type.

Very abundant in humid and shady places of forest almost to summit vegetation. It grows all over the place. Tall & and most upon plant in the darkest areas.
It grows in large clumps

~~Eburopsis~~ (eg: inversa)
(Retbergia)

Mata 24 viens 2189
Bambu

Br. Bahia, Mun. de Ilheus 2 Sd
Distrito Pedra Branca, a direção
Serra Temerosa.

Alt:
300 m. s. n. m.
Soil sample # 19
Fixed material
FAA: roots, shoot apex, buds
in ≠ stages - leaves
Photo: 6 x W - roll #
colo: Ektachrome roll #
mount of the photos with the
tripode.
Rhizome: collected.

Very abundant on top
of the serra in entire

forest, Up to 240 m ±
the forest was cut and
Now is a secondary
beautiful bamboo,
creeping all over the forest
floor, making difficult
to walk. Culms
resting at nodes over
the ground for long
distance and their
climbing and leaning
on a tree and start
branching.

~~X~~ Forest floor -

We measured one bamboo
culm from rhizome to
top branch: 44 meters!
Rather small rhizome
Internode of culm

not very long.
Culm noticed with persistent
sheath. Sheath blade
long triangular not reflexed
Buds! below sheath
they do not break through
the sheath. Probably
they are covered by a thin tissue
from the nodal region
or so.
Buds developing in ~~the~~ opposite direction of the
tip of the blade

One main bud in the center
with smaller ones on the
side
In branches they develop in
6 branches per node

Branched culms & rest
on leaning on vegetation
± 10 m & more.
The bamboo grows only
on the top of the
the mountain, no one
seen below.

No Olyreae seen in this
area.

Merostachys

March 25, 1972 2190
Bamboo

Brasil, Bahia, Municipio de
Abaíra, Distrito Pedra
Ouricanela, Fazenda
Cascata Formosa

Alt. s. n. m. 120 m

Abundant in forest
Beautiful forest, in places
they have start cutting
trees, in some places all
trees cut.
Bamboo of 12-15 m tall
leaning against trees and
vegetation below
culms sheaths soon
deciduous with blade
reflexed and very soon

fallen.
Many branches per week
(6 : 10

Soil sample #20
FAA - (rial with leaves
& bark in ≠ stages
no photo (rain!)

culm with nodes thin
walls, easy to break

2 rolls color sent to Rio (Brazil
camera)
6 rolls of Tri-X sent (4 to 8)
3 developed at Hakone (OK!
2 rolls (1 x 2) in Rio with Tom
Total arrived Rio: 8 rolls

base forming ± dense,
shape studys, many
new shoots seen.

Diarrea !! day - horrible -

March 31, 1972

K, MO, NY, P, LE, B, F 2191

Johannthus riedelii (Trin.) Doell

Bahia, Municipio Santa Cruz Cabrália, Reserva Biologica Pau Brasil (CEPLAC). Lat. Km W ~~[illegible]~~ of Porto Seguro.

Beautiful 1° forest, totally untached from the time of the portuguese

In shady place near the trail.

FAA - leaves, inflorescences.

2192

Phaseolus sp.

Small plants with narrow leaves. Inflorescence with a terminal spike (head) ending the main axis. This is thin, thread like as in other Phaseolus but terminates in a velvet spike. Very few plants, only one collected, not blooming.

no soil sample, nor FAA, nor photo (disease dry)

K, Mo, NY, P

2193

Erythrochaetha spicata

soil sample # 21
soil temp = 77°F
Atm. temp at 1.30 p.m. at plant level: 76°F.
Alt. 4 n. mi. 100 m.
soil sample # 21
Photo: color & B & W: in fir rolls # 10 (B & W.)

In rather open place along a trail. In shade. Inflorescence: 2-3 partial inflorescences forming the synflorescence. Very few plants with flowers.
Fixed material: FAA
Vegetative: leaves, roots, and spikes

Nero Lodge

2194

Bamboo

climbing bamboo, culms
weak and thin, branches
up to 6-7 mm. Most flowers. 3-4 branches per
node; in third branches
2 per node.
Culms hollow,
culm sheaths falling.
culm leaf blade leathery
bent downward.

Leaf large, Oryza type
with oval petal, silky, white
ligule: colored
Rather small clumps, not dense
FAA: leaves, buds & stage
root. Jelisle with petal
soil sample: # 22

temp. high = 82°F. ? not true.
at 5 p.m. = 72°F.
soil temp:
alt. s.n. amb = 100 m.s.n.m.
Photo: b&w | 18 pts roll =
# 11.
color = kato 23 rolls,
n° 3
Abundant in the
forest but not forming
dense clumps or being
dominant vegetation

225X Mountain?
224X Atrosalcantha

19/2X TRS Colombia
Nov. 11

2265X: Merostachys

2264X: Chusquea X Rhodostachys

2266X: ~~Aulonemia~~ Aulonemia

(symmetrica)

2257X: Merostachys

2256X: Atractantha (aureiaculata)

2252X: Merostachys

2209X: Colanthelia

2210X: Colanthelia

2258X: Chusquea (sg. inversa)

2189X: Chusquea (sg. inversa)

2180X: Colanthelia

2260X: Aulonemia (grandiflora)

2202X: Merostachys

2199X: Merostachys

2229X: Bambusa?

2228X: Bambusa

2233X: Atractantha (Timgipaniculata)

2232X: Merostachys

2234X: Bambusa

2236X: Merostachys

2240X: Merostachys (baby of 2236)

2194X: Merostachys

2190X: Merostachys?

2251 Neuradictyon?

2241 Atmadantha

1912 XTRS Columbia

Mer - 11

temp. high = 82° F. ? not sure.
at 5 p.m. = 72° F.
soil temp =
alt. s.n. mk = 100 m.s.n.m.
Photos: b & w ! 18 pts rolls =
# 11.
color = kodo 23 rolls ektas
n° 3
Abundant in the
forest but not forming
dense clumps or being
dominant vegetation

X; ♂ spk reduced, only 2 anthers at the base of ♀ in lateral infl.

April 1, 1972

Lycksele 2195

~~Thuja~~ ? capillata

Bu. Mun. de Lac Labrâlie - Route de Rouyn à Poste Lapuna - Sainte Cruz Labralie

Lac Labralie, 8 km north from the road to Sainte Cruz Labralie

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Photo B & W: rolls 11 sample 19 = all final, excluded ca. 40 photos & 0. nondescriptus

rolls 12 : 1-12

colors : roll 3 - 24 - 34

soil sample : = 22

FAA = 2, 1) seedlings, 2) base, spk. root

Lac. 1 ♀ spk. 3:1 - 1 poco -

Soil temp = 77°

Atm. temp = high - 80° F.

alt. s. n. m. = 80 m.

In primary forest, not very dense type. Near open places. Forming clumps of large plants up to 2 m. high. Apical inflor. "paniculate" of ♀ & ♂ in the lower part of the branches, from the node below, ♀ inflor. only. Both, terminal and lateral, sometimes with 2 panicles. No very long terminal panniculation yet, fruit. Plants with more light near the opening of the forest bloom well. In the dense areas no flowers. Long, thinner stipes out of the ♀ spk from the side. →

2196

Ichnanthus ~~sp~~ decapanophyllus ~~sp~~

Same place that O. capillata

FAA = 1 leaf, + flower near the edge of forest in open places but not direct light.

+ soil relatively dry (not muddy) - sandy; In the edge of the forest road is white, grayish sand - huge terrestrial bromeliad near O. capillata growing well in many places with O. ramosissima

2197 - Pinnia lepto - soil #23

K, Mo, N, X, P, LE, B, F, G, W, ISc, WIS, SI, SP

April 2, 1972 2197

Pinnia leptophylla

Be, Mun. Santa Cruz Cabrália. Rte. to Santa Cruz, 8 km from the road to Coroa Vermelha

Plts 6 a w. NOLL (12) from 15 - to 28 ±.

end of colon vol 3 - end (1 of 2)

soil sample # 23

living plant = collected

FAA = 1 v with leaves above.

" 2 v with seedlings

1 long.

1 3 : 1

Abundant.

About 100 m further up from the area of O. capillata (probably to same locale or near where I found it in 1968). beautiful primary forest, open type

with sandy soil.
Delicate plant in discrete clumps ~~of~~ growing in dark places. Base mostly all inflorescence from the base of the plant a separate shoot, decumbent partially over by dry leaves. Only a few plant found with inflorescence at the age of the main culm.
Few plants exposed to light or ~~in~~ at the edge of trail very ~~small~~ short, almost decumbent, very light green or yellowish and with few flowers or ~~no~~ non-
Stem purple red.-
Plants growing in the darkest areas are the most vigorous, tall and with many inflorescences. It seems that light inhibit growth and flowering of plant. Also leaves turn yellow-
Abundant ~~all over~~ in an area of ± 200 m from the road, deeper in the forest not found-

April 3, 1972 2198
Olyra ramosissima

Bx, Municip. Reserva Biológica Reserva Biológica Rio Brasil 16 km W of Pôrto Seguro

soil temp. 76
soil sample = 23
F+A = Lois, Sphlo, Setaria and Crotalaria-grass
boog = poor yield.
3:1 = mid
Photo = color 2-3
b+w = rolls 12 for 28-29 to end - (Alpena just on O. capillata on roll 11

Growing near stream and at edge of forest. ~~in~~ climbing or leaning over vegetation, very ramified looks exactly like O. lateralis from Panama but a much robust plant in place. fert.

Bamboo

April 4, 1972

2199

Ba, Mun. Santa Cruz Cabália,
8 Km W of Pôrto Seguro.

~~Chuvisco~~? Nevoeiro

Photo: colo, rain ± 6-8?
b & w. - rolls 13 : 1 - 22
finished 12-3

Soil sample #(24 - 20 cm)
25 - 40 cm.

Soil temp = 78 °F.
Atm. temp. 78°F at 11 a.m.
Alt. s. m. mar = 70 m
Climbing bamboo, very abundant plant in the forest
under the canopy. up to
15 or more m. Tall.
Culms holow, up to 3 cm
in diameter.

Culms sheaths deciduous, covered by a dense long white pubescence. Culms slender, small, narrow, bent downwards, falling very soon. Culms, aspect, green near the base, internodes short.
Many branches for node, borne from a [illegible]. Branches spreading and hanging on the rotation, with leafy branches in a puff from the node forming rather small clumps scattered through the forest.
New shoots sometimes very tall, ± 10 m without branching.

FAA = leaves, box of leaves with petiole. Ends in round tops - roots.
Rhizome : collected, 2, one from old, thicker culms, other from small, thin culms,

April 5, 1972 2200

Eremite

62. Municip. Pôrto Lepus ~~Road~~
~~Footh~~ + Parque Nacional
Monte Pascual.
Alt. s. n. mar. = 260 m.
soil sample # 26
soil temp = 78
temp. at ± 1 p. m. 82° F
F A A - leaf, roots?, basal inf (2 types)
borg - basal inf. a subterran. if
3:1 = mod
"reeds" = collected!
seedlings = in herbarium (9-2)
one the reed pelt

sandy - fine loam soil, stones
at ± 45-cm depth
Plots: b x w = std 13 - 23 + 28

clearing plant collected
Frequent in forest on
gently slop of the mountain
forming in ± small to
medium clumps scattered
throughout the forest.
Most in flower in separated
shoots ± short, creeping.
Also many subterranean
shoots with "elastopaus"
fruit - 3 lobed, round, white.
Fine sandy loam.
Other plants joining with
Eremite: Plants and
one stem Oryzae, unfor-
tunately not collected.

2201 - Johnanthus
2202 Bamboo - soil = 27

April 5, 1972 2201

Johnanthus pallens (Sw.) Munoz & Barthlem
Bo. Sabie, Barracifio Porto
Rejus. Parque Nacional de
Monte Pascual,
Johnanthus

Frequent near creeks
in the lower part of the
mountain.

No photo, no soil
FAA: leaves.

75°F (diarrea day!!)

April 6, 1972
Neo-tropics. 2202
Bo, Mun. Porto Rejus, Parque
Nacional Monte Pascual.
Bamboo (Guadua?)

In primary post, not very
high trees, Dominant plant.
climbing and leaning against
other plants, trees, and
many palms. Very few
terrestrial plant growing
in the area.
Alt. s.n.m. aprox. = 210 m. — 75°F
Soil Temp
Soil Sample = # 27
FAA = roots, leaves, culms,
buds in 7 steps
rhizome: collected. (2)
culms: hollow, fragil, breaks
very easily, about 1-1,5 cm
diameter at the base of

old canes.
Form not very large clumps. Branches up to 10 mm high.
Many branches from a node, the thin branches very few, 3, 4 or 6; in old & thicker culms many branches forming a whorl like of thin branches with the leaf complement.
Leaf thin, small.
culms veins smooth but in very thin branches & sheaths ("lija")
Culm sheath deciduous, with blade Δ, reflexed, falling very soon.
Soil & aerial - oriculate.
Plate: b x w = 2 or 3 with 13
veins = 2 or 3.

Phases of (grade)
In dark place, in small clumps, aerobic.
Very dark green leaves.
Broad,
Near the trail, where the bamboo grows.
Alt: 210 m.
Soil temp = 75°F.
FAA = leaf, root, petiole, per spikelet.
3:1 = per root tips.
& no plate

K, MO, NY, P, LE, B, F, G,

2204

Rheptogyne americana

Monte Bonito - (en pino + kaja que el bambu)
no altitud, very rain

Soil sample = 28
no temperat -
FAA = 2 vials: a) leaves, spkl.
b) seedlings
Berg. = 1 vial, spkl.
3:1 = per spkl, probably too old.
fruits = collected, per
In a very humid patch of the forest. In ± open place. In the same area Ericaceae (narrow leaves) very abundant
Rheptogyne grows in clumps
Many Heliconia, ferns. and no bamboo. All plants in flower -

soil = very red color,

No photos yet. (rain!)
Next day: on other area of the park at 80 m. S.n.m.
photo: color. 3 ±
b. & w. = ± 6 fin roll 13.
soil sample (2nd load at 80 m.) #29
collected: a few more specimens with the same number.
In the secondary part, humid and dark.
seed: collected -
Also living plant = collected

~~Johnathus 2206 - Hit = 31~~

April 7, 1972

K 2205

Phorus sp. (narrow and long leaves)

Soil sample 30.

In 1e front, near trail in dark place.

Leaves long lanceolate, narrow. In some plants seem to be a "little xphl." a the end of the lamin. as termination. Most of the inft. ± young.

Photo: no (rain)

FAA: leaf, petiole, xphl.

Box: xphl. 5:1 = no.

Parque Nac. Monte Pascual.

Path of font near the entrance. alt: ± 80 m.

red soil

Det. Michael Hickey

2206

Johnathus ~~sp.~~ Pleuranoyllus Mey.

Has Ca. Parq. Nac. Monte Pascual. In "capeira" along shady trail before the pool Boat.

Soil sample #31

FAA = leaf - xphl

3:1 = xphl.

alt. s.n.m. ± 80 m.

2207 →

April 8, 1972

2208

Calmite monothelaniceae

Bo, Rodovia Itamarajú - São Caulinho, 4 km W of Itamarajú - Município Itamarajú

In ~~a~~ secondary forest near trail, under the plants - Pl. of 30-70 cm± high.

Narrow, thin leaves, many in the leaf-complement. No apical inf. found. Basal inf. with two ~~leaves~~ leaf blades developed

Photo: b & w = roll 14 pos 1 to 10 ±

Color: ± 6 end of roll 4

soil sample: ± 32

~~leaf~~ =

→ 7 →

↓

Also found "white ball" ~~of~~ inside brownish at the end of bag or more or less short white hairs.

Roots - No apical flowers. ~~FRA~~ - 2 seedlings of "normal seed" collected for herbarium.

FRA = Oval - leaves, inf basal "round" type and white ball.

Bag = basal inf (normal)

3:1 = " " normal type and white balls.

Creeping plant: collected

Alt: 5 m max = 120 cm

Schwantesia 2207

In same place! Stony trail in rocky place.

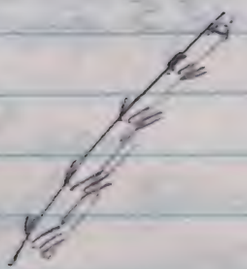
Schwantesia memorialis

Johnston 2207 →

Athroostachys capitata
Holttum 2209
K, MO, NY, P, L, E, B, F, G
Same place & 2208
Bamboo
In a very disturbed area
west of forest.
Only few patches of the
Bamboo in fruit stage
Alt. 5 m = 110 m
Culms = solid; in small
bundles with a little
holow in the centre.
climbing, culms ± 1-1,5
cm diameter.
3 branches x node
and spines, culms smooth
sheath persistent but black
deciduous - blade all,
drop ⊿ downward.
Plants up to 8 m ± tall.
red soil

← 2207

Soil sample # 33
FAA = leaves, petiole in the
bone of leaf; roots, culms
buds in ≠ stages
3:1 = root tips -
alt. s. m. max 120 m
Photo: b & w - roll 14 for 11-
colors: kodachrome from 1 to



Athroostachys capitata
~~Bolax Hebe~~

April 9, 1972 = K, Mo, NY, P, LE
~~Pariana~~ ? or Bambos 2210
Riserão de Fora, 4 Km S of
Itamarajú ⇒ Teixeira de Freitas
Municipio Itamarajú

Near stream in a very
disturbed area. No
flowers, probably a small
bamboo or P. laeviota?
No photo.
F & A = leaves, roots, petiole
T.T. = root tips.
Soil sample # 34 (red color)
Alt. s. m. aneroid = 25 mm
Long and retoe

K, MO, NY 2211

Phanus ? (broad leaves)
Same place. near stream
study place.
Tuball plants of the
common tall, broad leaves
Phanus ?
no photo nor soil.
F & A = leaves, petiole, root
tips.
Berg = tips.

Main axis of infl. in
a normal fashion
"Pump" in florescence".

red soil
checks specimens. there is
one with terminal
tips.

K 2212

Phaseolus sp. (narrow leaves)

Few plants seedlings likely
wet. in a very disturbed
area.
Leaflets are ending in
a terminal tendril

few plants, only in
herbarium. no photos nor
field.
In the same place we
saw many Brownies (nar-
rows, thin leaves, medium
small size. up to 60 ÷ 0.50 cm

K 2213

O. micrantha

In a very disturbed,
hoed field, with
Salvia and other
weeds.
Old plants, thick
culms and very
large leaves. Only
old infl.

FRA - leaves, base of stole
with petiole

K, MO, NY, P

April 9, 1972 2214

Be, Mun. Itanhaém. a 4km North of Itanhaém city.

Cordia sp.

~~Rauvolfia~~ monophylla

In a secondary forest, near the road - shady place. (Very disturbed, trees that have been cut very near, recently. Many plant with old xylopodes, ± 3 partial infl. each.

FRA - ♀ 4 phl, leave

Borg = 0 "

3:1 = ± 6 " and 1 not ti/

no photo.

soil sample: # 35

relevant! W

10, 1972

Cordia sp. 2215

~~a sp.~~ (obliquata)

Itapebi. Fazenda Sentania. ± 15 km North of Itapebi (at ± 3 km of the beach of the Stream (beautiful!) Fazenda with the rocks.

Soil sample 36

FRA - leaves, with ± 1 ♀ infl.

Alt. s.m. var. 90-100 m ±

At the edge of stream, rocky and shady. (stream with small "cachoeira". They called this kind of small stream "ribeirão"

Very delicate plants most of them small, looking like Piresia Goeldii or small Panicum

K, MO, NY, P

April 9, 1972 2214

Be. Mun. Itanhaém. ca. 4 Km North of Itanhaém city.

Cordia sp.

Dichotomy monophylla

In a secondary forest, near the road. Shady place. (Very disturbed, trees that have been cut very near, recently.

Many plant with old sympodia, ± 3 partial infl. each.

Fl. = ± 4 spkl, bees

Berg = 0 "

3:1 = ± 5 " and 1 not ripe

no photo.

Soil sample: # 35

flores & fruits! NW

April 10, 1972 2215

Streptocarpus sp.

Raddia sp. (chrysanthe)

Be. Mun. Itapebi. Fazenda Boa Ventania. ± 15 Km North of Itapebi (at ± 3 Km of the Fazenda) Stream (beautiful!) with rocks.

Soil sample 36

FRA - bees, rob. ± 1 ½ inf.

Alt. s.m. var. 90-100 m ±

At the edge of stream, rocky and shady. (stream with small "cachoeiras". They called this kind of small stream "ribeirão"

Very delicate plants most of them small, looking like Nivesia Gaudichii or small Paraiana

2216 - Roldia boriliensis (soil 37)
2217 " stand descriptive
2218 - soil became hot

FAA 1 ♀ inf., leaves, roots
2217 - Rold. ♀ - FAA leaves
1♀ = soil FAA ; Dorp -

---

hypothesis. Most of the plants stunt, but probably ~~some~~ require, and rain in coming days.
Four ♀ inf. near, ophl ♂ small -
Grass with ferns at the edge of the water on the rocks, (seem to be very little soil there).
FAA : leaves, roots & 1 ♀ inf -
no Dorp. no 3:1
~~soil sample~~ : Photo : b & w - end (± (3)) of roll 14 - no color -

2216

Roldia boriliensis ?

Same place, not far from the Rb Roldia dispute.

In a little higher place on top of shady, big rocky mass.
Abundant, forming a cores. Also (Very dry area, soil dry & hard) Plant looking bad, "mutia"). Four with flower, most of them old.
Leaves thin, shallow or little petiole under the blade.
Many plants, rooting at the nodes, like stolons

Looks like the Roddie we collected in Toronto on Tomé.

no berry & 3:1

FAA = only leaves, 1 O in/f. root +

Photo: no (or 1 at end of roll 14)

Soil sample # 37

Very long and thick root, some of them up to 50 cm long.

In this place, with the Roddie we saw one stiff plant looking like Paniana laxicaulis, small plant with long oval stem. Roddie in tension in between two panicle + Paniana. Perhaps simply a contact Roddie for Paniana and glide to this.

—

See Mrs Chase 7959 from Bolivia, sterile, with long stolons but ≠ sp.

stoloniferus 2217

Roddie? (Dyer's Tenuicaulis sterile).

(Same area, near the other R. brasiliensis. In a small patch, very dark. Plants more or less 50 cm high. Leaves almost dark purple (+ rolled) on the adaxial surface. Very thick roots, Roddie type. Plant (some of them) rooting at the nods. FAA = leaves + roots. no Photo, no soil.

Bolx laevis, K 2218
Same place - at the
edge of the stream
~~with~~ in open place
with other weeds.

FAA = leaves, infl -
Bolq = infl. + stage
no soil, no photo -

—

The forest along the stream
~~along~~ cut, ± 2 ha, with
cacao plants, Bast

April 11, 1972 2219
En. 60, Municipio Canavieira,
Lagoa Dourada, 30 Km W of
Tamarana, Rd Canavieira -
Canavieira -
Dioncdostyra (Poaceae)
In open forest, old
secondary forest, not far
from the "lagoa". ± 200 m.
Abundant, in ~~patches~~
forming small clumps
in the forest.
Variable in size, usually
the smallest plants in
open, open places, trail,
etc. light green leaves, ~~and~~
The ~~most~~ plants forming
in the shade looking
beautiful, tall but
blooming but flowers in
very few plant, probably

because we rain in rainy days, not very dry. Most of the plants in the white-gray spots, like Fungus infection. Inflorescence, most of them in short-one-leaf axiles, hidden under the blade in a Madrean-type fashion. But frequent also inflores. in the terminal or the main culm. Turf small leaf, compact. Spikl at the tip (like Distichlis from Florida.) That forest was cutted here and there to plant coca plant, many years ago but later abandoned. Now looks like a 1st forest, not forest needs clear, open, low type of forest, with more or less thin trees and some big, very thick trees. Alt s.n.m. max. = 100 m. Soil = Bloody Temp = 77°F Temp at 1 p.m. = 80°F FAA = bees, few inflores. Bag = few inflores. Photo: b & w only roll 15 for 1 to 15 = most of them with tripode a little at 8' x 15' A few without " on the trail with sun. Soil sample: 38.

some place, but a little farther

2220

Eremitis grande

In a disturbed area near the edge of the forest, (other parts [illegible] in shady places under other plants. Tall, stout plant with large leaf blades rolled on the abaxial surface. Many fruits in the apical inflorescence with two, probably four the two upper nodes of the adbasal inflorescence of the two types, the nominal superficial and the subterranean ones. Some seedlings seen and collected in FRA. Large seedlings from subterranean seeds.

Plant tall, 1.20 - 1.50 m with thick culms.

In One apical inf I think I saw the tip of a thick rachilla or inflorescence. It was fixed in the FRA vial.

FRA: 2 vols: a) basal inflors. Apical & basal & rutters.

b) seedlings

Borgu: basal inf

3:1 = apical inf. (note:)

soil sample 39, sandy soil.

Photo: 5 x w. only part of vol

15. Note 17

La raiz es pequeña para su hábito de vida transparente, ápice y con pendientes volcánicos en el fondo, se ven raicillas como si el ápice estuviera hirviendo

Dice que no hay, es rico en Heliconia, Costa una pequeña extracción, dice que está a 20 m de profundidad y bastante fácil

incl. day
April 16 2221
Be, Municipio Ipiales
± 3 Km North of Ipiales ?

Paniculum ♂

Lily wood pan. Very abundant all over Bolivia
large plant 130 - 160 +
collected only per specimen
for certain, young.
FAA = in plas - leaves
borg = "

2 vials

Uruaú

2222

Dianthobyra grandis

Be. Mun. Ibirataia, Fazenda Boa União; 20 Km North of Ipiaú.

Photo: b x w roll 15 frame 18 – 31 ±

Color: Kodachrome roll # ±506 on file.

FAA (2 ind) a) leaves, base of by with petiole, one shoot open in senescence.

b) seedlings

Berry: in fl. & fr.

Flowering plant collected.

seeds: one imp with mature ♀.

Soil sample # 40

4 rels

Alt. S.m.m. ca. 175 mm

Soil temp = 76° F

Atmosp. temp = high in the day 76° F at 4:15 p.m. 72° F

In a 2ane forest, under cocoa plantation.

smooth slope, shady with many Pteridophyta.

Very open type of formation with tall forest trees and tall cocoa trees.

Scattered all over the place but not forming carpet.

± Variable in size, from grassing in darker places, tufts, forming culms with leaf complement of many leaves decreasing in size from the top of the culms downward. Other culms with larger leaves, fewer in number.

Most of the infl. in very short, some very little culms with one blade. The infl. is always hidden under the blade in a reclinate position. These petit culms sometime come by tiny leaves; some of them are in decumbent position.

Very few infl. seen at the top of the main culm, most of them old, without spkl. Old spkl seem to mature first and fall very soon. Heritia of the spkl, below the glume, the caryopsis spkl falls. Old spkl with 3 stigmas and (one) glume.

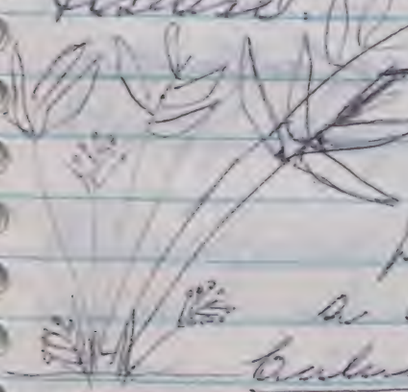
April 17, 1972
K, MO, NY, P, LE, B, FG, W, ISC, WIS 2223
Obpe (~~candidata~~ poell ref aff.
soil sample # 41

Ba, Mun. de Ibirataia,
Rd Ba. 2, a 7 Km North
of Ibirataia Fazenda
Santo Antonio.

± Small area of forest at the edge of a "corrego". (It is a very small stream, forest accumulation in a low, ~~Copse~~ depression near the edge of the forest in open or more or less open place. Huge plants in large clumps forming a big mass, in Patch tall, robust, up to 2.50 m. 4 m

2224 - Arberia - soil 42
2225 Paspalum stoloniferum - soil
2226 Pinaria - soil -43

culms with a few leaves at the top but ± a few large blades, hard and rigid. Leaves along culm with small & reduced blades. Very few plants with flower and fruit old. Just a panicle-like (large) growing directly from the base of the culm - some without leaves (few) Variable in height, some ± short (20-30 cm) others up to 1.20 m. Some old flowering culms with the fruiting of 2° and 3° partial inflo. In one plant the infl. culm ~~was~~ has few leaves with small blade, some infl. a little and dried rising almost at the base of the culm, with a very short axis. Rhizome pitted? Most of the plants in the area dying or in dried shape, with the leaves eaten by grasshoppers or some disease.



Dark green leaves, a little rugose, not lustrescent, like a big bamboo leaf)

culm: hollow.
FAA: leaf, base of blade with petiole, a few ♀ & ♂ fl. brown, old.
Berg: few ♀ spkl.
Soil sample: # 41
Alt. s.m.m. 170 m.
Soil temp. = 75° F.

2 vols

Photos: b & w: roll 15 (Pan) from 31± - to end. & Roll 16 for 1 to 15± (some at the end of the Arbenz's photos - with flash. Also inf taken with flash. some Tmax & mistake (2 of) flash at 8!

Color: no.

Living plant: collected.

Herborized!

2224

Arbenz? sp. nov.

Tamaulipas Bd, Municipio Ilaiatalaia, Rd. Bd. 2, at 7 Km North of Ilaiatalaia city. Fazenda Santo Antonio.

Alt. s. m. m. 175'

Soil temp. 75°

~~Atmos. temp. 78° F typ~~
83° F

~~Abundant~~ Frequent, in small clumps, all over the place, (About 200 m. from the entrance more, of the forest. In a little higher place than O. sanguinea. Dark and humid place growing in a smooth ~~mold~~ & fern plant near the edge of the forest.

under O. cruciata. All plants blooming!
Small, delicate plants up to ± 30 cm. Blade, oval-triangular, almost truncate at the base, broad. Twin, platy, the plant looks like a little Arisaema because of the broad base, but the petiole of the sympodium is ripped open on Rodda's collection. Sympodium completely hidden under the leaf complement. In the lower node of the leaf-complement or in the plant, from several nodes of the leaf-complement but not from the terminal one.
Sympodium: like a small fan, with many partial stipes, each one in the long, well developed prophylla. Each pseudostem very close together to each other, seem that the hypopodium is very short (like in Arisaema Florense: one large, delicate, white pendulous spathe, small, white spathe below ♀ the production of pseudostem seems to be very large and fast. It can be seen the last pseud. with the still ± young spathe and a new one arising. ♀ Inflorescence with stems (as in Arisaema) at the base?
In some places growing associated with Pinellia ?

In the same area we saw a few clumps (larger at patty of Diandrolyra
In bank of upland at
southern frame strips
2, long humor, exactly
from the side, near
the tip of the anther.
Seedlings: collected, "Beautiful"
Typed with first complete
developed blade bright, but
broad, asymetrical at
base.
Photo: b w w: roll 16 from
± 15 to 31. at very
long exposure, (at f 2.8 30 - 3
almost impossible to take
photos (sun but some
clouds, not very bright day)
with tripode at 8 and 40'
and without filter.

4 vials

Color: ~~w~~ ti'con pl. ~~tetrad~~
isodichrome not day (for)
FAA: 2 vials: a) base, base of
blade with petiole, roots,
one root tip per. ~~glutaraldehyde~~
and 2 xylol. b) seedling
bag: ± xylol above
bag pieces.
3:11: pm ± 7 stage photo.
Soil sample: #42
Living plant: collected

- In this patch of forest
grow: D. ~~campicola~~, D.
Diandrolyra patula (not
collected) and Liparis
fascicularis, Arberia sp. nov.
One petty bamboo (the
same not collected in
near Pedro Amaro, but
in the sierra). Also a big

pretty Zchnaten. Plants of
and Euphorbiaceae (very) com-
only one with fruits (collected)
and of course O. calophylla, at
the edge of forest.
Forest with huge Ficus trees
many palms

2225

Rapidos a Bradshawia's
decumbens staff
bo, Mun. Jbinatuia, Rd. bo.
2, at 7 km from Jbina-
tuia city.

Very abundant, rocky
~~on~~ at side roadcuts
with other weeds.

Robust plants up to
1.20 ±.
FAA = leave, inf in 7 days
Bong = inf
3:1 = inf.
no soil, no plots.

3 reps

Schnetter - 2227 Tlaxcala

April 18, 1872 2226
Piriesia sp. rhipsalisoides

Bo, Municp. Ixtacuixtla, Rd.
Km 2, at 7 km North of
Ixtacuixtla City - Hacienda
Santa Antonia.

± Small patch of plant
in a smooth slope at the
edge of a "barranca".
Frequent in ~~[illegible]~~ a few
patches, not shady places,
but rather open vegetation. (About 200 m from
the edge of the forest.
Growing in more or less
dense clumps. Beautiful
plants of bright, ~~[illegible]~~
green. About ± 0.30 m tall
Plants with a leafy segment

terminal right - hand cleft
enlarged!

Bog. Cliff, 4 miles

Schaeffer = 2227 Tequis

April 18, 1972 2226
Tessia sp. rhipidophylla

Ba, Municipio Ibirataia, Rd.
Ba 2, at 7 km North of
Ibirataia City. Fazenda
Santa Antonia.

-small patch of forest
in a trough slope at the
edge of a "varzea".
Frequent in [illegible]
patch, not shady places,
but rather open of regeneration. (About 200 m from
the edge of the forest.
Growing in more or less
dense clumps. Beautiful
plants of bright, [illegible]
green. About 20-30 cm tall
Plants with a leaf complement

terminal cirri = basal cirri
wh. it. - 1- brant developed!
also Kodak unit film.
of several one. Leaves at
the tip smaller. Aerial
mature of blade petiolate,
sheath with long petiolate.
Inf. rarely basal but
usual also at the tip of
the main culm. Not
many flowers: 7 ripening
ed - fruits. 9 ♂ Spkl
hermaphrodite, 3 stamens
and a gynoecium on a
long style, 1 thyme.

Alt = 170 m s.m. ca.
soil temp. 75°
soil - rather loose, sandy
Photo = b & w roll 16 fr
color = Kodachrome with flash
F & D = 2 vichy, a) leaves, inf.
b) seedling
Bag - Cirri, 4 vials

2228 Dambo with pine 10 mm / 44
2229 " mound (150 + m) 45
19 April

April 20
2230 Persia 1
alt. ~~180~~ m - 5 m. wide.
4 rods (reading)
Soil 46 living plant.
Soil temp 75.
max. temp. 76F at 2 p.m.
min. temp 70°F at 8 ± a.m.

7 Km North of Sandia, Fayetta

Persia 2231
Soil 47
Road de Fayetta Bon
Dieu Loseph, 7 Km North
of Sandia
4 rods -
alt. 200 m -
rods - living plant

3:1° inclination -
living plant - collected -
rods - two - alpha -
soil sample - # 43

same place 2227
Echinanthus riedelii (Trin) Durell
In woods place, near Persia
large plants ± 1.20 m tall
head, large leaves. Only for
det. inf. no flowers.
FAR = leaves -

Trial

(Bambusa)

April 19, 1972, H, MO, NY, P
Spiny Bamboo 2228
Bo, Municip. Sanderi, 2 km
North of Sandi hwy, Rd Bo
101, Fdy. Santo Antonio.

In forest and at the
edge of forest in the coco
plantation -
Large, huge bamboo, up to
12 or 15 m. culms
overarching one vegetation
bearing thick ± 7.5 cm
diameter, hollow, but
thick wall, green,
smooth canes 'en vrac'
(white dust). Spiny.
One main branch or
spine by node, usually
2 spines at both sides
of bud or 2-6

smaller branches around
the main one.
In 3 branches from
the main, thick culm,
usually the lower ones
the branches are spiny
and then, at the end
form the leaves -
Culm sheath, persistent
with very small, short
blade ~~XX~~ - with ~~XX~~ thick
black hairs ~~XXXXXXXXXX~~!
(~~XXXXXXXXXX~~).
New shoot very thick
not seen nearby.
Only one thick isolated
leaf - complement in
branches for thick
culm only, in thin
branches culms.
Large, thick blades

2 rolls

FAA = leaf, base of blade with petiole, roots, inflo-
Photo: Sew roll 17
color (2 day photosubstrate
brew = jungle boot with
Timberland
(Next day, at 7 km N of
Jordan, hike in other
forest much more shaded
and beautiful (photo) ofc)
Soil sample 44
right-colored

Monstera
Bambusa Taboca aspitata

2229

Bambu (narrow, big base)
Same locality.

In forest, about 15m
over vegetation.
Culms arising as clust
2 m one from each
other (Polygonal thick
with a thick stolon
interwined from one
culm to another -
Culm ± 4.5 cm diam
below, bark shooth
with black hairs (pinkish
If mature or leaf).
Culm blade large 1 bent
downward - old deciduous
One main branch, 2 or
more smalls from the
side - leaf blade

log, manu-
soil temp - 76°
soil sample = 45
F & A = Leave, Sub-
sigone = collected
photo = L & W = roll 17
coll = Schaefer

Trial

April 20 2230
Bk, Manic. Wenceslao Simarão
Rancho da Fazenda Boa Esperança, 7
Km North of Sandia City, Pará.
Oriental.
Piresia sp. ! Rhipidophyllum
Abundant in open forest
& shady, ± tall grass. (Open
forest: easy to walk through
no "savanas".
Beautiful plants up about
25-40 cm, light, bright
green. All plants showing
from the base of the clump
and from the 1/3 of
the median culm.
Leaves smooth pubescent
on the adaxial side, sheath
pubescent. No basal leaves
in the top-complement
to the R. Goeldii, burnt plants

much more robust.
In many part or 2 or
3 inflor. at the end
of the main culm
Florets : small, many part
red to pink, sometimes
green - one ♂ below the
♀ spikl but the terminal
♀ spikl with reduced ♂ below
Flors start to open from
the top to ~~bottom~~ bottom
here that ♀ open first
but it's almost simultaneous. At anthesis ♀
~~flors~~ anthers not ex,
stigmas exserted only from
the sides of the tip.
♂ spikl hermaphrodite
with gynoecium, long style
and one long, plumose
stigma - This flores
opens completely at anthesis and the 3 stamens dot
hang out of the
anthesis. Stamens seem
open and very thin
pollen around
♂ spikl fall rather
early in more or less
clusters. Flores only
the ♀ remain.
Usually 2 partial
inflorescences from middle
in the fall in
bent sunflower clusters
and branched, bright
orange-brown, some almost
vines by two bears, but
usually the end of the
shoot with the flores
coming out through
the leaves.

4 rels

Soil: sandy (mix) rather loose coke by "small" dry leaves but not so much as in bamboo/pine or Liquidambar trees. Plants easy to pull - (Very seem so many beautiful vines with so much inflorescence!) Many plants with terminal cymes.

Alt ± 180 m - 590 ft

Soil temp. 75°F

Atmos temp. high 76°F at 2 pm

low 70°F at 8 am

Soil sample: ± 46

Living plant = collected

seeds = per

FAA = 2 vials: 1) leaves, apical shoot, cymes, + spikes

b) seedlings -

bags - flowers + stage

Soil: flowers

Photo: b & w - roll 17 and 18

color: Ektachrome (no flash) all with tripod, per with flash roll = #6?

Seedlings - Sandwood type first completely developed blade, basal leaves etc.

In the same area a little before the plants we saw a lot of the flying lizards and also the three bears one color last Friday in Sandia.

2231

Paniculata, lanceolata?
Same area, but
± 300 - 400 feet, and
a little higher.
Alt: 200 m. s.n.m.

Abundant, in forest
near the edge.
Robust plant, tall,
up to 70 cm ±; some
smaller growing in
a cut area, exposed
to light. All plants
blooming.
Few large oval veins
but in some young,
small plant and
first. large, thin, a ± 0
ybud ending the axis but
separated but a stem
long internode from
the rest of the inft.
8 yl. small in the 3 rep.
+ small stamen. Ap
anthers 2 long, thin
thin stigmas seen out.
Y also low ovary ↓ ov
Ubiquitous well mature capsules
Many young plants and
seedlings seen around plants
Hard to find fruits, inft
broken and fall apart
by only remain the box
of seeds lasting in a row of
cups ↓
Inft. similar both like
P. lanceolata & Abantaba
This one is much more
robust, and inft. much
longer.
All inft. terminal

4 rods

to the main culm
FRA - 2 rud. 3) leaves,
base of blade, midrib -
root 5) seedling
base = inf ≠ stage
3:1 = inf
But mistake I hoped
do mature inf with
changes in the FRA rial ?)
Soil sample : 47
seeds : few
living plant - collected
(very few) seed.
Seedling : Beautiful ! first
leaves with reduced blade
1st developed blade horizontal
narrow lanceolate, long-
Photo : b x w = roll 17
color : Ektachrome x 6 -

2. Sambu (a plot 2233 - 49)
3. " kaya " " 2234.

11

April 21, 1972 2232
Zamboanga (Mindanao) (see note in next section)
Near Wareelan Guimanga,
Km 104 Rd Br 2, at 14 Km
North of Gandia City.
Photo: color Ektachrome roll # 6
from 18 25.
b x w : roll 17 - 1s and (to 10)

Soil sample # 48
alt - 175 m s.m.m.

common in forest, form
discrete clumps, not
very dense. Tall, ca. 15 m,
disturbing - culms holes
about 3 - 3,5 cm in diam at
the larger ones. Culms
green, a little "aspero" (bamboo
"lipa") Culm sheaths deciduous
very hairy, inside bright,

2° bds. alt - 180
3° " alt - 140 1 mal

smooth and glossy. Petiole velvety - blade ± small, triangular, serrulate. Leaf blade very thick, like leather, blades branching from a node. All bambus thin, about same thickness. More bambus in shade from thicker, old culm-leaf complement not very large. Leaves delicate lobes, long, lanceolate, narrow blades, thin, and not patient.

Pinnae - very big, colored
FAA = Reproductive, base of blade, wet - body + stem.
Soil temp = 74°F (cool day)
In many places of the forest this bambus grows

associated with the bambus (Heb. 2233) of thin, small leaves which is strong. It grows from 170 m - to 200 m or more - Absent

We our people (women) cutting the cane of the bambus for making wop bows. They go for bamboo cane bay, co no culm el tech le bambus -

Dud not host a leaved 10 mm in the no bambus yet -

Anactantha (Lepidoptera near Sp.)

Bolivia (Pto.) 2233

Same locality but higher (on steep, incline slope of a hill.)

Alt. s.n.m. 700 m

(Rd Br. 2, it's the old road between Rio - Bolivia) I come out from the new Road "Br. 101" ± 10 Km north of Shindia to the right (it is very bad there!)

Abundant in the forest in some places (among the other bamboo) (Bl. 2232) Tall ± 10 - 12 m climbing, over other, repent. Culms solid, rather thin and flexible, about 1,5 cm in diameter, forming ± small, not dense clumps. Culm sheath persistent or almost, with blade small, 4 decurrent.

One main, thick branch from a node, and several other, thin from the nodes. Culm and branches smooth, glabrous.

Leaf complement of relatively small, narrow leaves. It seems it starts slowly not much leaf in first leaf long, narrow cylindrical, and in fact to have apparition at the end of leaf complement or in young branches almost from the nodes. The "hairs" (or plumes)

in the lower part of the
spkl with a reduced
blade developed.
Many spkl were empty.
(Red & tiers 3 stamens.

Soil sample = 49
zygome = collected.
FAA = large (250 cc) vial: leaves
buds & stipes, hyperhydrous
spkl.
Borax = large (50 cc) vial: spkl.
3:1 = " " " "
Photo = 5 x w, roll 18 from
1 to 15 ±
Color Ektachrome roll #6
no ni seeds - no seedlings/roots
Fed in a rush, late and
rain coming.

Brad

~~Banisteria~~
Malpighiaceae 2234
Banisteria (2° in flor.)

Same locality but at lower
alt., almost pure litt.
alt. 140 m. s.m.m.

Same banisteria collected
on April 19 at 2 km. North
of Santa Rita (Bot. 2228)
At the edge of forest, in
disturbed area.
One main, thick branch
from node several small
thin ones from the base.
Leaves ± deciduous, not
forming clumps. Leaves
narrow, long lanceolate
Flowering 1 long, thin
spkl hanging like a
raceme from the end

3 vials

of the main axis of the leaf compliment - Some stems, to be left per vert stem in anthers, open with 3 stigmas, and 3 stamens out -
Hybrid of different size, some small, other large, about 10 cm or more long, (7 stages)
Photo - bud only - f 16 to 22 ± roll 18
FAA - large vial (250 cc) with Hybrid - (not leaves, one stick dried apices, very late, no light and rain coming)
Bond = 50 cc vial Hybrid
3:1 = " " "
no soil no rhizome -
Isolated habitat only flowering Lords -

April 22 2.235
Arthropoda

2 vial

Very common road side grass. Seeing all along the road between Sandi and Itutaki.

22-37

Neotachys

April 23, 1872 2236

Bamboo (grove)

Rd, Municipio Ituberá,

Km 43 Rd Gandu - Ituberá

at 21 km of Ituberá

(Here are 62 km between Gandu & Ituberá)

Alt - 300 mts. a.s.m.

Photo b&w roll 18 from 23 to end

color: Ektachrome roll #6 from 32 ± to end.

Abundant throughout the forest ("Etim" tree forest). Ones reported up to 15 m tall or more in clumps. Culms hollow, hard, thorny, erect, spaces internodes very elongated 22 - 37 inches. Culms ± 2,5 cm diameter. Leaves strong, thick blades

2 vials

± 6 adult ♂♂ from a male in a roselle like bunch around the node. Culms weak as thick, deciduous, with a blade bent downward, deciduous also - leaves large, lanceolate like Oryza latifolia, may in a loop complement 1½ Pairs or more.

Base bunch seems to be of first and almost invisible in the others.

FAA: 2 vials, 3) boys in the bush, 5) ♂♂ on the leaves, body and blade with base of blade

Soil sample ± 50

Soil dull brown, red-yellow rigorous = colected

April 24, 1972 2237

Odyssea ramonissima

Bo, Mun Canamus, Rd Cam
para Hainapitanga, 11 Kms
SW of Canamus
Alt: 80-30 m - S. m m.
Fair sample = 51
cal, (day:) soil
living plant = wet calcite
Frequent in a slope and
edge of trail. in dist.
bet area dry trail also.
Under taller & other plant
large, sol plants with many
branches, tall and in the
large flatter or a little
depress Under. Young
plant (from rally fruit
a large leaf complement
in a Pinnia or Dianthus

fashion leave smooth,
fulvescent. Plant juvenile
young erect, short, thin
plant climbing.
Plants up to 1 m a while
more.
In other spot I saw one
inflor at anthesis. Hole
shall completely open
with a large gynoecium
with 2 stigma, planes
exserted.
Hard to find young inflor.
it seem that the flowering
period is very short
and speedy the B spot
fall very soon.
Many parasitic see
in some eyn flowers
each one
with thy tophylle (neo's no
three brant)

6 spikes in the long internode in the lower branches of the inflorescence.

seedlings: dominant on middle, some seem to develop a long complement of basal leaves immediately; others the spikes one or two joint longer with developed stolons.

Photos: b & w. roll 19 from 1 to 10 (there are a few of seedlings & long plantlets)

color: Ektachrome, roll #7 from 1 to 5.

FAA: 3 vials; a) base, spikes. b) seedlings, c) synflorescences (without flowers).

Bag: spikes

3:1: 6 spikes.

5 vials

This year is fragment along the road between Waikamo - Hydrotunga as far as 30 km. but rare & very abundant. Usually grows on dirt edge of road or water ditch, and also in "savanna" at road side.

Pinguicula macrophylla

April 25, 1972 2238

Pinguicula aff ~~grandiflora~~ (Pinguicula grandiflora)

Dr. Hemp. Nido Reserva
Fay Bona Retiro 14 Km
North of Huebra (2½ Km
road to the right, W Jungle
Highway)
Alt s.m.m. 1400 m.
Soil temp: 74°
Air temp: high 74° at 3.15
low 2 = 1 -
Photos: 6 x w all 19 from
11 to 25
color Ektachrome all 7
from 6 to - 19
Soil sample # 52
Hemp plant = collected
FAA = 2 vials, 2) seedlings (many)
b) leaves, inflorescence bases of leaves
Boric - impf -
3:1 = 11

Abundant in shady part of native pine forest (beautiful forest) mixed with, into sand. The small clumps scattered all over from ca. 200 m from the edge of the forest. Tall plants up to 60 cm ± but variable in size, those growing in and nearby dirt spot and along trail small. In dark place, protected for other plant pinguicula seem beautiful, robust, tall.

Scapes calyx sheaths a little inflated but not hairy (like the similar Pinguicula of Manitoba) large plants

± stiff, flakes, stands
surface white-gray-tan

~~2238 Tehachapi~~
~~2240 Bakersfield (El Milbum pass~~
~~colors & fauna Hanna~~

2239
Tehachapi removals
(some area of Pierce 2238
Abundant in open
places and along trail
(lower unit. rocky)
Plots up to 1.2 ±
FAA.
FAA = lens, optical
no soil, no plots.

Ind

Hemitachys 2240

Baby bamboo

Near the trail in the Kipuka forest.
Small plant in a clump looking like Panicums.
But, further into that trail we saw late a plant of the bamboo in full ripe. That the big bamboo we already Retiree Hawaii. Hutes
We also saw that bamboo in the road for bamboo paving
Mat.
Few bamboo Yam collected
3:1 = Pest not by.

Inal

no photo, no det -

JUNE CALDERON

Rel Br 101

Jorge Grossmann
Ass Librarian
Ref & Inf.
DU 1-8259

Jorge Grossmann

Ass. Libero

Ref. Inf.

DU 1-8259

1725 I st.

Off. of Regional Devel.

Cartographic Sect.

Lawrence Fahey

Premier Bldg. 706 D.

Tel. DU 1-8477

fotografias

D. fig - roll 3, 4

D. 2219 - 16

D 2222 16

Pinnie infl - 9

" leptophylla 13, 22 (68 8)

" Hatae (2178) 7 - 8 -

" Hirotaie (2226) 17

Itai

" 2230 - 18, 18

" [illegible] 2238 21

Eremias chico - 2174 6 - 7

" [illegible] 2175 6 - 7

" Ubantole 2184 10 -

" M Pascual 2200 14 -

" Hamaraji 2208 15 -

" [illegible] 2220 16 .

Rd Br 101

2 Km North of Sandia, Mun. Sandia
Fazenda Santo Antonio

Intos 32 foto Sandia city - 33 read
62 W from 23

From Valenza up to Br 101
driving non stop, ± fast. it took
55 minutes.

Lucia C

JUNE CALDERON

fotografías